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Inventory Accounting Method Selection: The Relationship Between Cost of Goods Sold Variability and Inventory Variability

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ABSTRACT

This study aims to determine the effect of variability in cost of goods sold, and inventory variability on the selection of inventory accounting methods. The population in this study are manufacturing companies and food and beverage manufacturing companies listed on the Indonesia Stock Exchange (IDX) from 2019 to 2023. The research sample was 19 food and beverage manufacturing companies obtained by purposive sampling technique. The results showed that partially the variable variability of cost of goods sold and inventory variability had no effect on the selection of inventory accounting methods.

Kata Kunci:
Persediaan; Metode Akuntansi; Harga Pokok Penjualan

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh variabilitas harga pokok penjualan, dan variabilitas persediaan terhadap pemilihan metode akuntansi persediaan. Populasi dalam penelitian ini adalah perusahaan manufaktur dan perusahan manufaktur makanan dan minuman yang terdaftar di Bursa Efek Indonesia (BEI) pada tahun 2019 sampai 2023. Sampel penelitian sebanyak 19 perusahaan manufaktur makanan dan minuman yang diperoleh dengan teknik *purposive sampling*. Hasil penelitian menunjukan bahwa secara parsial variabel variabilitas harga pokok penjualan dan variabilitas persediaan tidak mempunyai pengaruh terhadap pemilihan metode akuntansi persediaan.

INTRODUCTION

The main purpose of a company being established is to make a profit, by making a profit the company is able to survive in running its business. In addition, every company wants its company to grow. This desire can be achieved if it is supported by reliable management capabilities both in terms of production, marketing and investment (Ayem & Harjanta, 2018). Profit has been an interesting discussion, especially in the fields of economics and business. Many researchers provide various definitions in interpreting profit. Soei et al., (2018) state that earnings are a measure of performance or success for a company and are used by investors and creditors for consideration of making decisions to invest or provide additional credit.

According to Financial Accounting Standards (PSAK) No. 14 of 2015, inventory is defined as assets available for sale in the ordinary course of business, in the production

process for such sales, or in the form of materials or equipment for use in the production process or provision of services (Ikatan Akuntan Indonesia, 2015).

Tjahjono & Chaerulisa, (2015) argue that not all companies have the same policy in choosing an inventory accounting method because the inventory accounting method used must also pay attention to the type of operational activities of the company. According to Gaol, (2015) the inventory valuation method policy will affect the content of the information presented in the financial statements, both in the balance sheet and profit/loss.

Factors that can affect the selection of inventory valuation methods include inventory variability, which is a variation in the value of a company's inventory (Syailendra & Raharja, 2014). This is supported by Ayem & Harjanta, (2018) which says that inventory variability affects policy making to choose inventory accounting methods.

According to Sumilat, (2013) Cost of goods sold (COGS) is one of the components of the income statement, which is of concern to company management in controlling company operations. Generally, there are 3 types of cost of goods, namely cost of inventory, cost of production and cost of goods sold therefore, cost of goods sold (COGS) refers to the production cost of a product or service sold.

The variability of cost of goods sold is the basis of the company in selling its products from a number of products sold in one period (Tjahjono & Chaerulisa, 2015). The variability of cost of goods sold shows the cost of goods sold during a certain accounting period which reflects the company's operations in managing its inventory. In practice, variability in cost of goods sold is usually used as a comparison for inventory variability. Inventory is one of the working capital components with the lowest level of liquidity compared to other working capital components. Inventory is very important for the company, because inventory bridges purchasing, production and sales activities (Mahardika et al., 2015). Variability in cost of goods sold can have a significant impact on a company's profits. If production costs increase significantly, then the selling price of the product or service must be increased to maintain the same profit margin. However, if the company is unable to increase its selling price, it will result in a decrease in profit margins and may impact business continuity (Sayyida, 2014). It is important for companies to monitor and understand the variability of cost of goods sold and the factors that affect it. Companies can take measures such as effective inventory management, raw material price negotiations with suppliers, or production efficiency to reduce production costs and address cost of goods sold variability. Companies must understand and manage cost of goods sold variability well to maintain healthy profit margins, improve operational efficiency, and remain competitive in the market (Tjahjono & Chaerulisa, 2015).

Inventory variability is a variation in the value of inventory and describes the company's operations that reflect inventory and inventory accounting techniques and the

movements of the inventory itself (Setiyanto, 2012). Inventory variability using the FIFO method is significantly greater, while the average method's ending inventory value is more stable, which is always influenced by price changes. In this case, shareholders tend to choose to use the average method because it produces stable and predictable information for the future (Sangadah & Kusmuriyanto, 2014). Measuring inventory variability in inflationary and deflationary conditions using the FIFO and average methods is not too conflicting. During inflationary conditions, using the FIFO method will result in high inventory variation and will have an impact on increasing profits. Meanwhile, when using the average method, it does not cause too high inventory variations, so profits will be lower (Setiyanto, 2012).

Research on the variability of cost of goods sold conducted by Suzan & Ichsan, (2021), Jepriansyah & Erawati, (2020), Hanum, (2016), affects the selection of inventory accounting methods. In contrast to the results of research by Tjahjono & Chaerulisa, (2015) which states that inventory variablity has no effect on the selection of inventory accounting methods.

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Companies in determining the inventory valuation method in a company must first see which one is more suitable for the type of merchandise and the level of change that occurs, then compare these methods to determine which of them is beneficial to the company (Widyasari et al., 2021). Determining the right inventory accounting method for the company is one that needs to be considered by management in managing inventory. Each company has different policies in determining inventory accounting methods.

Based on this explanation and previous studies regarding the factors that influence the selection of inventory valuation methods, it can be concluded that there are differences in the results of each study. Therefore, the latest empirical evidence is needed regarding the diverse research results.

In this study, researchers used a population of manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the 2019-2021 period, because the high level of inventory sensitivity lies in manufacturing companies. Based on this research gap, researchers are interested in conducting research with the title “The Effect of Variability of Cost of Goods Sold and Inventory Variability on the Selection of Inventory Accounting Methods (Case Study of Food and Beverage Companies listed on the IDX 2019-2023)”.

METHOD

This study uses a population of food and beverage companies listed on the Indonesia Stock Exchange (IDX) with a research period of 5 years, namely from 2019 to 2023. The sample selection method used is purposive sampling by setting several criteria:

1. Food and beverage sub-sector manufacturing companies listed on the Indonesia Stock Exchange (IDX)
2. Companies that publish their financial statements for 2019-2023 in a row.
3. The sample companies did not experience losses during the observation period, namely 2019 to 2023.

The companies included in the sample selection criteria are 19 companies. The data analysis method in this study is the logistic statistical analysis method using SPSS. Based on the concept that has been prepared, the operational definitions of the variables in this study are:

1. Cost of Goods Sold

The variability of cost of goods sold is measured by the cost of goods sold coefficient obtained by dividing the standard deviation of cost of goods sold by the average cost of goods sold during the observation period. Cost of goods sold variability optimizes profits and ensures healthy business continuity.

The varying value of cost of goods sold in an entity is the definition of cost of goods sold variability. Cost of goods sold in inventory control requires accuracy to increase profits from operations because cost of goods sold is the largest expense in the entity (Sari & Suzan, 2015). Finding the variability value of cost of goods sold divided by the average cost of goods sold. So that the following formula is obtained:

$$Variablity\ of\ Cost\ of\ Goods\ Sold = \frac{Standard\ Deviation\ of\ Cost\ of\ Goods\ Sold}{Average\ Cost\ of\ Goods\ Sold}$$

2. Inventory Variability

Inventory variability is the variation in the value of inventory in a company. This variation illustrates the company's operations reflecting inventory and inventory accounting techniques and the movements of the inventory itself. Inventory is an asset that is available for sale in business activities can be in the production process for sales in the form of materials or equipment for use in the production process or provision of services (Sasongko et al., 2016).

The varying value of inventory that occurs in an entity is called inventory variability. This variation can explain the entity's operations that describe the inventory accounting and inventory techniques used and the movements of the inventory (Ayem & Harjanta, 2018).

Inventory variability is measured by the final coefficient of variation over 5 years. The coefficient of variation is obtained by dividing the standard deviation of inventory by the average inventory for 5 years. The average inventory is calculated from the total inventory for 5 years divided by 5.

$$Inventory\ Variability = \frac{Standard\ Deviation\ of\ Ending\ Inventory}{Average\ Ending\ Inventory}$$

3. Inventory Accounting Method Selection

The dependent variable in this study is the selection of inventory accounting methods, namely the FIFO method and the average method, as the dependent variable is based on PSAK No. 14 (2015) which follows the tax regulations in Indonesia as stated in article 10 paragraph 6 of Law No. 36 of 2008. Based on this, there are only two inventory accounting methods that may be used in Indonesia, namely the FIFO method and the average method. This related variable is qualitative and is a dummy variable. Therefore, the measurement is done using a nominal scale. If a company chooses its inventory accounting using the average method, it is given a nominal number 0, and if a company chooses its accounting method using the FIFO (First In First Out) method, it is given a nominal number 1.

RESULT AND DISCUSSION

Classical Assumption Test Results

Table 1. Classical Assumption Test Results

Testing Type	Significance	Conclusion
Multicollinearity Test:	VIF	
Variablity of Cost of Goods Sold (X1)	2,220	There is no multicollinearity
Inventory Variability (X2)	2,220	
Linearity Logit Test:		The logistic regression model fulfills the assumption of linearity in logit
Var._HPP by ln_Var.HPP	0,256	
Var._Persediaan by ln_Var.Persediaan	0,574	

Sumber: data diolah, 2024

Based on table 1, the VIF value for each variable is 2,220 < 10, so the X1 and X2 variables are declared not to occur multicollinearity. The significance value of the interaction test of the Variablity of Cost of Goods Sold and Inventory Variability variables on the inventory method selection variable is greater than 0.05, indicating that the relationship between X1 and X2 with the logit of Y is linear, so the model results can be interpreted with confidence.

Logistic Regression Test Results

Table 2. Logistic Regression Test Results

Model	Regression Test			Nagelkerke R Square
	b	Exp(B)	Sig.	
(Constant)	-3,324	0,036	0.000	0,162
Variablity of Cost of Goods Sold (X1)	6,820	915,691	0,271	
Inventory Variability (X2)	0,192	1,212	0,955	

a. Dependent Variable: Accounting Inventory Method (Y)

From table 2 above, the significance value is 0,271 which means greater than 0.05, it can be explained that the variability of COGS has no significant effect on the selection of inventory accounting methods. Meanwhile, for the inventory variability variable, the significance value is 0,955, which means greater than 0,05, it can be explained that inventory variability has no significant effect on the selection of inventory accounting methods. Based on the calculation results of table 2, the Nagelkerke R Square value is 0,162 so it can be concluded that the effect of all independent variables on the dependent variable is 16,2%.

Discussion

1. The Effect of Variability of Cost of Goods Sold on the Selection of Inventory Accounting Methods

Based on the partial test results in this study, the variability of cost of goods sold has no effect on inventory accounting methods. Therefore, the conclusion of the first hypothesis is rejected. In other words, there is no positive and significant influence between the variable cost of goods sold (X1) on the inventory accounting method (Y).

The results of this study are in line with the results of research by Tjahjono & Chaerulisa, (2015) which state that inventory variablity has no effect on the selection of inventory accounting methods, and contradict the results of research conducted by Suzan & Ichsan, (2021), Jepriansyah & Erawati, (2020), Hanum, (2016), which state that variability in cost of goods sold affects the selection of inventory accounting methods.

The variability of cost of goods sold in inflationary conditions (price changes) will not only affect the final value of inventory but will also affect the cost of goods sold. Changes in cost of goods sold will have an impact on the company's net income. With price changes, the selection of inventory methods based on cost of goods will have a different effect on the balance sheet and ending inventory. Thus companies that have a goal of saving taxes or political costs will choose the average method. Meanwhile, if the company wants an increase in its profits, it will choose the FIFO method, because the price increase will affect the company's income (Tjahjono & Chaerulisa, 2015).

The results of the sample data analysis related to the selection of inventory methods show that most of the companies sampled use the weighted average or moving average method. This indicates that basically companies tend to use the average method because with this method the company will make tax savings, because the average method will produce a smaller profit value (Mahardika et al., 2015).

2. The Effect of Inventory Variability on the Selection of Inventory Accounting Methods

Based on the results of the partial test (t-test) in this study, inventory variability has no effect on inventory accounting methods, so it can be concluded that the second hypothesis is rejected.

The results of this study are in line with the results of research by Hanum, (2016), dan Tjahjono & Chaerulisa, (2015) which state that inventory variablity has no effect on the selection of inventory accounting methods, and contradict research conducted by Suzan & Ichsan, (2021), Ayem & Harjanta, (2018) which state that inventory variability affects the selection of inventory accounting methods.

If the variation in inventory is greater, the profit of a company will also be greater and vice versa, if the smaller the variation in inventory value, the smaller the variation in profit will be. The higher the variation in inventory value, the company will use FIFO so that the resulting profit is greater and cannot do tax saving, while the lower the variation in inventory value, the company will choose the average so that the resulting profit is small so that it can do tax saving (Setiyanto, 2012).

Companies with small inventory variability can choose to use the average method, which is lower when compared to the use of the FIFO method so that companies can make tax savings. Meanwhile, companies with high inventory variability will use the FIFO method so that profits become larger and cannot make tax savings. The results of sample data analysis related to the selection of inventory methods show that most of the companies sampled use the weighted average or moving average method, so that the lack of sample variation in the use of inventory valuation methods, making this variable has no effect on inventory valuation methods.

CONCLUSION

Based on the results of this study, the researchers draw several conclusions in accordance with the formulation of the problem stated, namely the variability of the cost of goods sold has no effect on the selection of inventory accounting methods, as well as the variability of inventory has no significant effect on the selection of inventory accounting methods. The variability of cost of goods sold shows the cost of goods sold during a certain accounting period which reflects the company's operations in managing its inventory. Given that inventory is one of the components of working capital with the lowest level of liquidity compared to other components of working capital. Companies need to be wiser in choosing the inventory accounting method used. In addition, inventory variability is believed to be unpredictable due to changes in sales value each year regardless of the method used, so companies can consider choosing the average method of recording inventory.

References

Ayem, S., & Harjanta, A. P. P. (2018). Pengaruh Ukuran Perusahaan, Variabilitas Persediaan, Kepemilikan Manajerial, Financial Leveragedan Laba Sebelum Pajak Terhadap Pemilihan Metode Akuntansi Persediaan(Studi Empiris Pada Perusahaan Sub Sektor Farmasi yang terdaftar di Bursa Efek Indonesia Pe. *Jurnal Akuntansi Dewantara*, *2*(1). https://doi.org/https://doi.org/10.26460/ad.v2i1.2578

Gaol, R. L. (2015). Analisis Faktor-Faktor Yang Mempengaruhi Metode Akuntansi Persediaan Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia (Bei). *Jurnal Riset Akuntansi & Keuangan*, *1*(1), 12–33. https://doi.org/10.54367/jrak.v1i1.158

Hanum, A. L. (2016). *Analisis Faktor-Faktor Yang Berpengaruh Terhadap Pemilihan Metode Akuntansi Persediaan (Studi Kasus pada Perusahaan Dagang dan Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia Tahun 2012-2015)* (Skripsi). http://repository.umy.ac.id/handle/123456789/7814

Ikatan Akuntan Indonesia. (2015). Standar Akuntansi Keuangan. In *Pernyataan Standar Akuntansi Keuangan No. 14*. Ikatan Akuntan Indonesia.

Jepriansyah, & Erawati, T. (2020). Pengaruh Variabilitas Harga Pokok Penjualan, Rasio Lancar, Financial Leverage Terhadap Pemilihan Metode Akuntansi Persediaan. *Jurnal Akuntansi Pajak Dewantara*, *2*(1). https://doi.org/https://doi.org/10.24964/japd.v1i2.923

Mahardika, R., Nuraina, E., & Widhianningrum, P. (2015). Analisis Faktor-Faktor Yang Berpengaruh Terhadap Pemilihan Metode Akuntansi Persediaan (Studi Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia). *Assets: Jurnal Akuntansi Dan Pendidikan*, *4*(2), 134. https://doi.org/10.25273/jap.v4i2.682

Sangadah, S., & Kusmuriyanto. (2014). Analisis Pemilihan Metode Akuntansi Persediaan Pada Perusahaan Manufaktur. *Accounting Analysis Journal*, *3*(3). https://doi.org/https://doi.org/10.15294/aaj.v3i3.4197

Sari, F. P., & Suzan, L. (2015). Pengaruh Ukuran Perusahaan, Perputaran Persediaan dan Variabilitas Harga Pokok Penjualan Terhadap Pemiliihan Metode Penilaian Persediaan (Status Empiris pada Perusahaan Manufaktur Sektor Industri Barang Konsumsi yang Terdaftar di Bursa Efek Indonesia Peri. *E-Proceeding of Management*, *2*(2), 1699–1705. https://openlibrarypublications.telkomuniversity.ac.id/index.php/management/article/view/459

Sasongko, C., Ningrum, A. S., Febriana, A., Hanum, A. N., Pratiwi, A. D., & Zuryati, V. (2016). *Akuntansi Suatu Pengantar Berbasis PSAK*. Salemba Empat.

Sayyida. (2014). *Pengaruh Biaya Produksi Terhadap Laba Perusahaan*. *IV*(1), 1–13.

Setiyanto, K. B. (2012). Analisis Faktor-Faktor Yang Berpengaruh Terhadap Pemilihan Metode Akuntansi Persediaan (Studi Kasus Pada Perusahaan Dagang Dan Manufaktur Yang Terdaftar Di BEI Tahun 2008-2010) [Universitas Diponegoro]. In *Fakultas Ekonomi dan Bisnis*. https://doi.org/35656

Soei, R. S., Nangoi, G. B., & Kalalo, M. Y. B. (2018). Analisis Pengaruh Tingkat Laba Bersih Dan Ukuran Perusahaaan Terhadap Koefisien Respon Laba Pada Perusahaan Manufaktur Di Bei Tahun 2013 - 2016. *Going Concern : Jurnal Riset Akuntansi*, *13*(02), 251–260. https://doi.org/10.32400/gc.13.02.19165.2018

Sumilat, Z. T. A. (2013). Penentuan Harga Pokok Penjualan Kamar Menggunakan Activity Based Costing Pada Rsu Pancaran Kasih Gmim. *Jurnal Emba: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi*, *1*(3), 454–464. https://doi.org/https://doi.org/10.35794/emba.1.3.2013.2060

Suzan, L., & Ichsan, I. (2021). Pengaruh Ukuran Perusahaan, Variabilitas Persediaan, Variabilitas Harga Pokok Penjualan, Dan Laba Sebelum Pajak Terhadap Metode Akuntansi Persediaan. *Jurnal Ilmiah MEA*, *5*(3), 2166–2182.

Syailendra, B., & Raharja. (2014). Analisis Faktor-Faktor Yang Berpengaruh Terhadap Pemilihan Metode Penilaian Persediaan (Studi Kasus Pada Perusahaan Dagang Dan Manufaktur Yang Terdaftar Di BEI Tahun 2008-2012). *DIPONEGORO JOURNAL OF ACCOUNTING*, *3*(2). http://ejournal-s1.undip.ac.id/index.php/accounting

Tjahjono, A., & Chaerulisa, V. N. (2015). Analisis Faktor-Faktor Yang Berpengaruh Terhadap Pemilihan Metode Akuntansi Persediaan Pada Perusahaan Sub Sektor Perdagangan Besar Barang Produksi Dan Sub Sektor Perdagangan Eceran Yang Terdaftar Di Bursa Efek Indonesia (BEI). *Kajian Bisnis STIE Widya Wiwaha*, *23*(2), 150–161. https://doi.org/10.32477/jkb.v23i2.211

Widyasari, N., Palinggi, Y., & Hermanto, M. (2021). Analisis Penerapan Metode First In First Out (Fifo) Dan Average Untuk Penilaian Persediaan Kertas HVS Pada Muara Kaman Copy & Print Center Di Tenggarong. *Jurnal Ekonomi & Manajemen Indonesia*, *21*(2), 1–16. https://doi.org/10.53640/jemi.v21i2.963